

Case 3395***Geophilus linearis* C.L. Koch, 1835 and *Geophilus sorrentinus* Attems, 1903 (currently *Stenotaenia linearis* and *S. sorrentina*; Chilopoda): proposed conservation of the specific names**

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the specific names *linearis* C.L. Koch, 1835 and *sorrentinus* Attems, 1903, both originally published in *Geophilus* Leach, 1814, for two widespread European species of geophilomorph centipedes currently referred to the genus *Stenotaenia* C.L. Koch, 1847 of which *Geophilus linearis* C.L. Koch, 1835 is the type species. *Stenotaenia linearis* (C.L. Koch, 1835), which is currently in universal and common use, is threatened by the long forgotten subjective synonym *Geophilus simplex* Gervais, 1835 because of a first-reviser action by Gervais (1837) which has been practically disregarded since 1918. *Stenotaenia sorrentina* (Attems, 1903) is threatened by its putative, subjective synonymy with *Geophilus forficularius* Fanzago, 1881, a name never used as valid since the year of publication.

Keywords. Nomenclature; taxonomy; Chilopoda; *Stenotaenia*; *Stenotaenia linearis*; *Geophilus simplex*; *Stenotaenia sorrentina*; *Geophilus forficularius*; geophilomorph centipedes.

1. Gervais (1835a, p. 9, pl. 133) described *Geophilus simplex* for some specimens collected in Paris (France). The whereabouts of the original material are unknown. *G. simplex* has been used as a valid name in further publications by Gervais (1835b, 1837, 1847) and also by other nineteenth-century authors: Newport (1845, 1856), Macé (1886, 1887), Dubois (1887), Gazagnaire (1888) and Cecconi (1898). Since 1900, the name was still used as valid by Berlese (1903) and Bagnall (1918), as well as in two compilations of data on luminous myriapods where pre-1900 citations were simply cited with the original name (Koch, 1927; Harvey, 1952). It has been listed as a species of uncertain identity by Attems (1929) and as a name of dubious validity by Brölemann (1930). We are not aware of any other use besides those listed here.

2. C.L. Koch (1835, tab. 1) described *Geophilus linearis* for a specimen collected in Regensburg (Germany). We believe that the holotype is not in existence: no specimen recognisable as such is present in the bulk of Koch's collection at the Natural History Museum, London (A. Minelli, pers. obs.), nor in the Museum für Naturkunde, Berlin, where other specimens from Koch's collection are preserved (Moritz & Fischer, 1979). This species has been most often referred either to *Geophilus* Leach, 1814 or *Clinopodes* C.L. Koch, 1847, less frequently to *Stenotaenia* C.L. Koch, 1847 or *Onychopodogaster* Verhoeff, 1902, which is a junior synonym of the former (see Verhoeff, 1902; Bonato & Minelli, in press). A recent taxonomic revision (Bonato &

Minelli, in press) has shown that *G. linearis* and other related taxa should be referred to a genus, distinct from both *Geophilus* and *Clinopodes*, for which the oldest available name is *Stenotaenia*. *G. linearis* is one of the two nominal species originally introduced by Koch (1847) in *Stenotaenia*; it was fixed as its type species by Pocock (1890, p. 66).

3. Identity between *Geophilus simplex* Gervais, 1835 and *Geophilus linearis* C.L. Koch, 1835 was first suggested by Gervais (1837, p. 52) and subsequently adopted by most authors; it was registered with doubt only by Latzel (1880) and Brade-Birks (1934), whereas it was never explicitly rejected.

4. As both names were published in the same year and information is not available to determine the actual dates of publication more precisely, Gervais' (1837) selection of *Geophilus simplex* Gervais, 1835 as the valid name should be accepted according to the principle of the First Reviser (Article 24.2 of the Code). However, using *G. simplex* would threaten stability and universality, for the following reasons.

5. *Geophilus simplex* Gervais, 1835 has been used as a valid name, as far as we know, only in 15 papers, no later than 1918 in faunistic and taxonomic papers, no later than 1930 as dubiously valid, and no later than 1952 in a summary of older literature on bioluminescence. Conversely, *Geophilus linearis* C.L. Koch, 1835 has been used as the valid name for the same taxon by most authors in the 20th century, in more than 230 publications dealing with faunistics, taxonomy, ecology, physiology and anatomy. Furthermore, *G. linearis* (see para. 2 above) is the type species of *Stenotaenia* C.L. Koch, 1847, a genus currently including 15 valid species (Bonato & Minelli, in press). Even though *G. simplex* has been used as a valid name at least 4 times after 1899 and therefore one of the two conditions for the reversal of precedence is not met (Article 23.9.1.1 of the Code), the other condition is fully met (Article 23.9.1.2 of the Code) as *G. linearis* has been used as valid in more than 25 works, published by more than 10 authors in the last 50 years and encompassing a span of more than 10 years (e.g. Attems, 1959; Kanellis, 1959; Lewis, 1962; Eason, 1964; Horstmann, 1968; Matic & Darabantu, 1969; Matic, 1972; Würmli, 1972; Kaczmarek, 1980; Rosenberg, 1982; Andersson, 1983; Minelli & Iovane, 1987; Barber & Keay, 1988; Klinger, 1992; Kos, 1992, 1996; Minelli, 1992; Berg, 1995; Foddai et al., 1995; Stoev, 1997, 2004; Wytwer, 1997; Barber, 2000; Leśniewska, 2000; Zapparoli, 2002; Simaiakis et al., 2004). To maintain stability, it is proposed to suppress *Geophilus simplex* Gervais, 1835.

6. Fanzago (1881a, p. 378) described *Geophilus forficularius* for several specimens of both sexes collected near Sassari (Sardinia). The only additional publication where this name was used as valid was Fanzago (1881b). All subsequent authors ignored it, including Attems (1929) in his monograph on world Geophilomorpha and Foddai et al. (1995) in their checklist of Italian myriapods.

7. Attems (1903, p. 228) described *Geophilus sorrentinus* for a specimen collected in Monte Faito, Campania region (Italy). The holotype is preserved in the collections of the Naturhistorisches Museum, Vienna (see Lewis, 1994). *G. sorrentinus* has been used as a valid name by Attems (1929, 1947, 1959), Verhoeff (1943), Manfredi (1956, 1957) and Foddai et al. (1995). Following his study of the holotype, Lewis (1994) suggested that *G. sorrentinus* should be regarded as a junior synonym of *G. linearis*, but this was based on a broad concept of this latter species. Instead, a recent

comprehensive taxonomic study provided morphological and biogeographical evidence for treating *Geophilus sorrentinus* Attems, 1903 and *Geophilus linearis* C.L. Koch, 1835 as distinct species (Bonato & Minelli, in press). Furthermore, *Geophilus linearis abbreviatus* Verhoeff, 1925, which was described by Verhoeff (1925) for two specimens from different localities (Corpo di Cava, near Monte Faito, Campania region; Ferrania, Liguria region), was recognised as a junior synonym of *G. sorrentinus* (Bonato & Minelli, in press).

8. *Geophilus forficularius* Fanzago, 1881 was regarded as a synonym of *Geophilus vesuvianus* Newport, 1845 (currently *Henia vesuviana* (Newport, 1845)) by Berlese (1903), who did not provide arguments for this synonymy. Minelli (1983) suggested instead a possible synonymy with *Geophilus carpophagus* Leach, 1815. More recently, Bonato & Minelli (in press) have provided detailed arguments in favour of a synonymy between *Geophilus forficularius* Fanzago, 1881 and *Geophilus sorrentinus* Attems, 1903.

9. While there is no reason to dispute, or to reverse, the priority of *Geophilus sorrentinus* Attems, 1903 over *Geophilus linearis abbreviatus* Verhoeff, 1925, using the senior name *Geophilus forficularius* Fanzago, 1881 as the valid name for this taxon would threaten stability and universality, for the following reasons.

10. The identity of *Geophilus forficularius* Fanzago, 1881 is only incompletely established, because no type material is known to exist and the original description is incomplete, whereas the identity of *Geophilus sorrentinus* Attems, 1903 is well known as the holotype is still extant and has been redescribed and illustrated adequately (Lewis, 1994). Furthermore, *G. forficularius* is an almost neglected name, as it was cited as a valid name only in 2 papers by the original author, both in 1881, whereas *G. sorrentinus* has been used as valid in 8 papers (9 including Bonato & Minelli, in press), even in recent times (1995), including major taxonomic and faunistic publications. As *G. forficularius* has not been used as the valid name after 1899, one of the two conditions for the reversal of precedence is met (Article 23.9.1 of the Code). In order to maintain stability it is proposed to suppress *Geophilus forficularius* Fanzago, 1881.

11. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the following specific names for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:
 - (a) *simplex* Gervais, 1835, as published in the binomen *Geophilus simplex*;
 - (b) *forficularius* Fanzago, 1881, as published in the binomen *Geophilus forficularius*;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *linearis* C.L. Koch, 1835, as published in the binomen *Geophilus linearis* (specific name of the type species of *Stenotaenia* C.L. Koch, 1847);
 - (b) *sorrentinus* Attems, 1903, as published in the binomen *Geophilus sorrentinus*;
- (3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the following names:
 - (a) *simplex* Gervais, 1835, as published in the binomen *Geophilus simplex* and as suppressed in (1)(a) above;

(b) *forficularius* Fanzago, 1881, as published in the binomen *Geophilus forficularius* and as suppressed in (1)(b) above.

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Acknowledgement of receipt of this publication was published in BZN **63**: 221.

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